

PATENT COOPERATION TREATY

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REC'D 22 OCT 2004

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference TUV-031.25 | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/US03/34684 | International filing date (day/month/year) 31 October 2003 (31.10.2003) | Priority date (day/month/year) 01 November 2002 (01.11.2002) |
| International Patent Classification (IPC) or national classification and IPC IPC(7): A61K 38/17 and US Cl.: 530/353 | | |
| Applicant TRUSTEES OF TUFTS COLLEGE | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

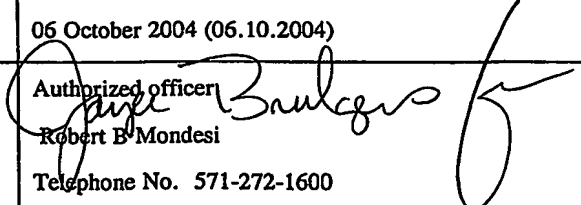
2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of ___ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

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| Date of submission of the demand 26 May 2004 (26.05.2004) | Date of completion of this report 06 October 2004 (06.10.2004) |
| Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 | Authorized officer  Robert B. Mondesi Telephone No. 571-272-1600 |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US03/34684

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☒ the description:
 pages 1-29 as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____.
- ☒ the claims:
 pages 30-32, as originally filed
 pages NONE, as amended (together with any statement) under Article 19
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____.
- ☒ the drawings:
 pages 1-33, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____.
- ☐ the sequence listing part of the description:
 pages NONE, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/34684

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

| | | |
|-------------------------------|----------------------------------|-----|
| Novelty (N) | Claims <u>2,4,9-14 and 16-30</u> | YES |
| | Claims <u>1, 3, 5-8 and 15</u> | NO |
| Inventive Step (IS) | Claims <u>2, 4, 9-14, 16-30</u> | YES |
| | Claims <u>1, 3, 5-8 and 15</u> | NO |
| Industrial Applicability (IA) | Claims <u>1-30</u> | YES |
| | Claims <u>NONE</u> | NO |

2. CITATIONS AND EXPLANATIONS

Claims 1, 3 and 5-8 lack novelty under PCT Article 33(2) as being anticipated by Ayub et al. Ayub et al. teach a method of preparing a fibrous protein hydro-gel wherein the fibrous protein is silk and the solvent is ethanol (materials and methods, page 1910)

Claims 1, 5 and 15 lack novelty under PCT Article 33(2) as being anticipated by Dinerman et al. Dinerman et al. teach a method of preparing a fibrous protein hydro-gel wherein the fibrous protein is silk and the hydro-gel is a bulk solid hydro-gel comprising several ordered layers of the fibrous protein

Claims 2, 4, 9-14 and 16-30 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the method of preparation of the smectic hydro-gel as claimed by the applicants.

Claims 1-30 meet the criteria set out in PCT Article 33(4), and thus meet industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

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NOTE OF INFORMAL COMMUNICATION WITH THE APPLICANT

(PCT Rule 66.6)

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| International application No. PCT/US03/34684 | Applicant's or agent's file reference TUV-031.25 | Date of informal communication (day/month/year) 24 September 2004 (24.09.2004) |
| Applicant TRUSTEES OF TUFTS COLLEGE | | |

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|---|--|--|---|--|
| <u>Communication</u> <input checked="" type="checkbox"/> by telephone <input type="checkbox"/> personal | <u>Participants</u> <input checked="" type="checkbox"/> Applicant: TRUSTEES OF TUFTS COLLEGE <input checked="" type="checkbox"/> Agent: Dana Gordon <input checked="" type="checkbox"/> Examiner(s): Robert B Mondesi | <input checked="" type="checkbox"/> Identity checked | <input checked="" type="checkbox"/> authorization checked | <input checked="" type="checkbox"/> personally known |
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Summary of communication:

The applicants decided in a telephonic interview to omit the written opinion (408) and move directly to the IPER (409)

☐ An extension of time limit is granted (Form PCT/IPEA/427).

☐ A copy of this note is being sent to the applicant with Form PCT/IPEA/429.

PCT/IPEA/424.

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| Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 | Authorized officer Robert B Mondesi Telephone No. 571-272-1600 |
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Form PCT/IPEA/428 (July 1992)